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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,907	07/10/2003	Kazuhisa Aruga	520.38161CX2	9557

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EXAMINER

PORTKA, GARY J

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,907

Applicant(s)

ARUGA, KAZUHISA

Examiner

Gary J Portka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/495,868.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/03, 8/03, 9/04, 12/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-50 have been canceled, and claims 51-88 have been added and amended by Applicants preliminary amendments. Claims 51-88 are pending.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/495,868, filed on February 20, 2000. ***Information Disclosure Statement***

3. The information disclosure statements (IDS) submitted on July 10, 2003, August 7, 2003, December 24, 2003, and September 3, 2004 were considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 51-52, 56-57, 66-68, 72-76, 80-84, and 88 are rejected under 35 U.S.C. 102(e) as being anticipated by Bleiweiss et al., US 5,841,997.

6. As to claims 51-52, 56-57, 66-68, 72-76, 80-84, and 88, Bleiweiss discloses a storage system with plurality of disk drives (12, Fig. 1) corresponding to fibre channel paths/loops, controller (e.g., 100a, Fig. 3) to be coupled to a network (intended use, or alternatively required in order to access the storage system) receiving data from an

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information unit (required to get data into the storage system), information unit interface and disk drive interface in the controller (the input and output sides of the controller in any write or read access to the storage system), switch (90 collectively, Fig. 3) coupled to the controller by fewer paths (e.g., connection shown to 100a) than it is coupled to disk drives by fibre channel interface paths (e.g., switch elements 90 which are connected to 100a and to disk drive loops 102a and 102c), each of the drives having an identification number (#0 through #23, Fig. 1), wherein the switch transfers data to a selected disk drive by a fibre channel interface path based on receiving data from the disk drive interface (see also Abstract, col. 1 lines 50-67, col. 2 lines 6-24, and col. 4 lines 22-26 and 40-48).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 58-60 and 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleiweiss et al., US 5,841,997, in view of Langerman et al., US Patent 6,751,680 B2.

9. As to claims 58-60 and 64-65, Bleiweiss discloses the claimed invention substantially as described above with regard to claims 51 etc. Bleiweiss does not disclose that the switch transfers data to a disk drive based on information of the ID number. However, it was known in the art that the disk be identified in a fibre channel

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protocol, see Langerman col. 8 lines 52-59, which describe a target ID number used in the fibre channel protocol to identify a particular disk. Clearly this ID, by itself or in combination with other indicators, must be used to identify the disk, and thus the loop, and thus must be the means by which the switch 90 selects the proper loop and disk. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to switch based on the disk ID, because it is required to control the switch to access the disk, and the fibre channel protocol was known to include a identifier of the desired disk.

10. Claims 53-55, 69-71, 77-79, and 85-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleiweiss et al., US 5,841,997, in view of Chong Jr. et al., US Patent 6,721,317 B2.

11. Claims 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleiweiss et al., US 5,841,997, in view of Langerman et al., US Patent 6,751,680 B2, and further in view of Chong Jr. et al., US Patent 6,721,317 B2.

12. As to claims 53-55, 61-63, 69-71, 77-79, and 85-87, neither Bleiweiss nor Langerman disclose the recited generation of parity, storing parity on at least one drive, some drives storing data without parity, or a spare drive storing data from another drive. However, all of these are examples of well known RAID techniques. Chong teaches in a fibre channel protocol system that the advantages of RAID0, RAID1 or RAID5 may be implemented (see Abstract, col. 7 lines 4-37). Different RAID levels are well known to have different advantageous characteristics, one being higher performance, and another being higher reliability. RAID 1 is known to include a drive storing data without

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parity, and the mirror is a spare storing data from another drive as recited. RAID is known to include parity on at least one drive. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to add the recited capabilities, because these would result from implementing various RAID levels which were well known in the art to have advantages of higher performance and/or reliability.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 51-88 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 95-112 of copending Application No. 10/337,397. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current application claims are basically broader than those of the parent, and it would have been obvious to leave out unneeded functions.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No:

6,640,281 Path controller for disk system used to change management sites.


6,289,376 Switch to server module containing multiple fibre channel loops.

5,754,756 Disk array having selector to disk drives.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gary J Portka
Primary Examiner
Art Unit 2188

December 16, 2004